Bovine Tuberculosis (TB) Update

Since January 2008, seven cows from three Fresno Co herds and one cow from a San Bernardino Co herd have been diagnosed with bovine TB. Approximately 395,000 cattle have been TB-tested, two herds depopulated, over 8,000 cattle killed, and over $20 million spent in this investigation.

Two affected herds are on a test and removal program. Strain typing indicates the cases had three separate sources, and are not related to the herds detected in California in 2002-2003.

Affected Herd Information		
# Affected Herds	# Infected Animals	# Cattle in Herds
4	8	~21,000

TB Testing To Date		
# Herds Tested	# Herd tests	# Cattle tests
246	285	~395,000

California is an MAA State

As of September 18, 2008, California is classified as "Modified Accredited Advanced" (MAA). Veterinarians and producers must check the TB-testing requirements of receiving states when moving cattle out of California; state requirements may be more restrictive than federal rules. Current federal rules require intact cattle over six months of age that originate in an MAA state must be officially identified and accompanied by a certificate stating that the animal tested negative to an official TB test conducted within 60 days prior to interstate movement.

Exceptions include:

- Cattle from an accredited herd, with a whole herd test within 12 months of the movement
- Cattle moving directly to a federally inspected slaughter facility
- Feeder cattle – identification and TB testing requirements are delayed, however some states require a test or a special permit (see factsheet ***"Tuberculosis Requirements for Feeder Cattle Leaving California"***).
- Breeding beef herds moving for grazing on a Pasture-to-Pasture Permit have the TB test waived until November 2009.

Dairy Cattle Entering California Fairs

Fairs throughout the state have adopted TB testing requirements for **dairy breeding cattle** over six (6) months of age. Those being sold at the fair must be tested within 60 days of the sale; those for exhibition only must be tested within 6 months of the show. Cattle are exempt from testing if the herd of origin had a negative herd test within 12 months of the show.

Bovine Tuberculosis Control Plans

The California Department of Food and Agriculture (CDFA) and the cattle industry have made the following recommendations to the USDA to improve the TB program to meet the changing livestock industry practices. These include to:

- Educate producers to recognize and implement biosecurity practices that prevent disease spread
- Base state status on disease prevalence and risk, not simply on number of infected herds.
- Change the feeder cattle practices to reduce the exposure of breeding cattle to Mexican origin cattle.
- Develop, implement and monitor improved diagnostic tests for live animals and for slaughter surveillance.
- Improve the investigation of TB cases to identify and test potentially exposed native cattle.
- Improve border surveillance to prevent illegal movement of cattle.
- Improve communication with the Center for Disease Control on human-livestock interactions.
- Support development of effective TB vaccines, especially for application in wildlife populations.
- Require application, recording and collection of official permanent individual identification of cattle moving in commerce.

Testing and Identification in Associated Herds
Herds associated with the affected herds are being tested. Herd owners are provided, free of charge, official individual animal RFID tags for test eligible cattle. Using RFID tags enhances accurate and efficient TB testing and traceability.

Caudal Fold Skin Test (CFT)


Caudal fold tuberculin test

Cows typically become skin test positive 3-6 weeks after infection with *M. bovis*. Any response to this test must be reported to regulatory veterinarians immediately so they can apply either the gamma interferon or the CCT as confirmatory tests. Cattle positive to confirmatory tests are necropsied and tissues sent to the National Veterinary Service Laboratory (NVSL) in Ames, Iowa.

Comparative Cervical Test (CCT)
This skin test determines if a CFT response is more likely due to *M. bovis* or *M. avium*. It must be done within 10 days (or after 60 days) of the CFT test injection. Two areas on the neck are shaved, the skin thickness measured, and bovine and avian extracts injected at the separate sites. Responses are evaluated and measured 72 hours after the injections. The differences in pre and post-test measurements determine the result as negative, suspect, or reactor.

TB Gamma Interferon Test
This test uses whole blood. The lymphocytes are stimulated with *M. bovis* and *M. avium* extracts, the supernatant harvested and tested by ELISA for gamma interferon. Cows typically become gamma interferon test positive 3-5 weeks after infection with *M. bovis*. CCT and gamma have equivalent sensitivity (73-100%) and specificity (85-99%).

National Report
At least 76 cattle herds and 6 captive cervid herds have been detected with bovine TB since 2000; 11 cattle herds were disclosed in FY 2008. Slaughter surveillance detected 358 TB cases since 2000; 326 cases from fed/fat cattle and 32 from adult cattle.

Minnesota has detected 12 affected beef herds since 2005. Their TB-status was downgraded to modified accredited (MA) in April 2008 (the third lowest level on the USDA five-tiered cattle TB ranking system), but in September 2008, they received split state status with an MA zone around the affected herds and infected wildlife area, and a MAA zone for the rest of the state.

Michigan has detected 46 affected cattle herds and three cervid herds since 1998. The state has three zones – the infected area, classified as MA, the Upper Peninsula, TB-free, and the rest of the state, MAA.

New Mexico lost its split-state status in September 2008 after detecting a new affected herd, and regained a split-state status on March 23, 2009. The MAA zone is around Curry and Roosevelt counties, with the rest of the state TB-Free.

Other states: A captive deer herd has been depopulated after testing positive for TB in **New York**. A captive elk and fallow deer herd has tested positive in **Nebraska** and is currently under quarantine. **Indiana** is investigating a beef animal diagnosed with TB at a slaughter facility in Pennsylvania, and **North Dakota's** follow up testing of a herd from a slaughter trace are negative. **Texas** is investigating a dairy herd where 2 infected animals were detected during testing to sell the herd. In 2007, TB was also detected in herds in **Colorado** and **Oklahoma**.

On Farm TB Prevention
The best ways for cattle producers to prevent bovine TB are to:

- Maintain a closed herd
- Obtain TB-free herd accreditation
- Isolate and test cattle entering the herd
- Prevent contact between breeding cattle and Mexican feeder cattle, including in the sick pen
- Prevent contact with cattle of unknown TB status
- Arrange professional diagnostic workups of suspicious, sick or dead animals, and
- Establish a TB screening policy for employees
- Enhance disease tracing by recording individual animal identification and maintaining accurate records.

Significance of Bovine TB
While the risk of humans contracting bovine TB is extremely low due to the safeguards of milk pasteurization and routine meat inspection, people can contract TB through consuming illegal soft cheese products and through respiratory exposure to live infected cattle or their carcasses. Conversely, humans infected with bovine TB can transmit disease to cattle.

USDA TB Listening Session
Summaries from the December 2008 listening sessions will be placed on-line at www.aphis.usda.gov, Hot Issues, Bovine Tuberculosis.

CDFA Animal Health Branch Offices	
Sacramento (HQ)	916-654-1447
Modesto	209-491-9350
Ontario	909-947-4462
Redding	530-225-2140
Tulare	559-685-3500
USDA/APHIS/VS	916-854-3950 or 877-741-3690

http://www.cdfa.ca.gov or http://www.aphis.usda.gov